

ایک اعلیٰ - یا درجہ

1) اگر  $f(n) = \left(\frac{1}{r}\right)^{n-r} - 1$  جیسے دہندہ تقریب  $y = \sqrt{n^r f(n+1)}$  اور

$$\frac{n^r}{f(n)} = \frac{-1}{+} \frac{+}{+} \frac{+}{-}$$

$$\left(\frac{1}{r}\right)^{n-r} = 1$$

$$n = r$$

$$D_f = [0, r]$$

$$n^r f(n) = \frac{-1}{+} \frac{+}{+} \frac{+}{-}$$

$$f(-n) = \sqrt{-n + |-n+r|}$$

2) اگر  $f(n) = \sqrt{n+|n+r|}$  جیسے دہندہ تقریب  $f(-n)$  اور

$$n > r : -n - r + r = -n$$

$$n < r : -n - n + r = -2n + r$$

$$D_f = (-\infty, 1)$$

$$-2n + r > 0 \Rightarrow n < 1$$

$$n-1 \quad \frac{-}{+}$$

$$f(n) \quad \frac{-}{+} \frac{-}{+} \frac{-}{+} \frac{-}{+}$$

3) اگر  $f(n) = \frac{n-1}{f(n)}$  جیسے دہندہ تقریب  $y = \sqrt{\frac{n-1}{f(n)}}$  اور

$$D_f = (-\infty, 1) \cup (r, \infty)$$

$$y = \frac{1}{\sqrt{n^r - \epsilon n^r - \epsilon n - \epsilon}}$$

$$y_1 = \frac{1}{\sqrt{n^r - \epsilon n^r - \epsilon n - \epsilon}} \quad (4)$$

$$a = -1$$

$$b = -\epsilon$$

$$\sqrt{-(-1-\epsilon)} = \frac{1}{r}$$

$$\frac{n^r - \epsilon n^r + 1}{(n^r - 1)^2} = \frac{n^r - \epsilon n^r - 1}{-(n+r)^2}$$

$$n^r - 1 = n + r$$

$$n^r - n - r = 0$$

5) اگر  $f(n) = n^r + n$  جیسے دہندہ تقریب  $y = \sqrt{f(n) - f\left(\frac{\epsilon}{n}\right)}$  اور

$$y = \sqrt{[n^r - \epsilon] [n^r + \epsilon n^r + 1]}$$

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$$n^r - \epsilon n^r = n^r (n-r)(n+r)$$

$$n^r - \epsilon n^r = \frac{(n^r - 1)(n^r + \epsilon n^r + 1)}{(n-r)(n+r)}$$

$$\frac{+}{-} \frac{+}{-} \frac{+}{-} \frac{+}{-} \Rightarrow D_f = \mathbb{R} - (-r, r)$$

= =

$$r = f(r) + f(1) \text{ دالة } f(n^2+m) = r_{n^2-1} \text{ } \checkmark \text{ (9)}$$

$$\frac{(1)^{n+1}}{1} \quad \frac{(r)^{n+1}}{1}$$

$$\textcircled{8} \quad \frac{r}{-1} \leftarrow \frac{g(\sqrt{r}-r)}{f(\sqrt{r+r})} \text{ دالة } g(n) = n^2 + 9nr + r^2 \text{ و } f(n) = n^2 - 9nr + 16n \text{ } \checkmark \text{ (10)}$$

$$\text{مستطوي}$$

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$$(n+3)^2 = g(n) + r$$

$$f(n) + c = (n-r)^2$$

$$\underbrace{f(n) + g(n)}_{r\sqrt{n-\epsilon}} = a + b\sqrt{n+c} \text{ دالة } n \gg \epsilon \text{ } \checkmark \text{ (11)}$$

$$c = -r, b = r, a = 0 \leadsto \frac{r+0}{-\epsilon} = \left(-\frac{1}{r}\right)$$

$$g(n) = \sqrt{n-\epsilon\sqrt{n-\epsilon}}, f(n) = \sqrt{n+\epsilon\sqrt{n-\epsilon}} \text{ } \checkmark \text{ (12)}$$

$$\sqrt{(\sqrt{n-\epsilon}-r)^2}, \sqrt{(\sqrt{n-\epsilon}+r)^2}$$

$$(n, r) \text{ دالة } g(n) = \{(r, 1), (1, 0), (0, r), (r, r)\} \text{ } \checkmark \text{ (13)}$$

$$f(n) = \frac{n+r}{n^2-rn+c} \text{ } \checkmark \text{ (14)}$$

$$\frac{g}{f}(n) = \left\{ \left(r, -\frac{1}{-\epsilon}\right), \left(0, \frac{r}{r}\right) \right\}$$

$$g(n) = \{(-r, c), (1, -1), (r, -1)\} \text{ } \checkmark \text{ (15)}$$

$$f(n) = \{(r, c), (c, r), (-1, c)\} \text{ } \checkmark \text{ (16)}$$

$$f(rn) = \{(r, r), (r, -1), (r, r), (-r, r)\}$$

$$f(n^2) = \{(1, r), (-1, r), (\sqrt{r}, -1), (-\sqrt{r}, -1), (r, r), (-r, r)\}$$

$$g^r(n) + 1 = \{(-r, 1), (1, r), (r, 1), (-1, 1)\}$$

$$\frac{rf}{g} = \left\{ \left(r, -\frac{r}{r}\right), \left(1, \frac{r}{-r}\right) \right\}$$